

REMARKS

Claim 11 has been amended. Claims 1-17 remain. No new matter has been added.

An English language translation of the specification of prior art reference DE 3817827 is enclosed herewith.

The rejections and objections shall be taken up in the order presented in the Official Action.

2. Claims 2-3, 6-7, 9, 12-13 and 15 currently stand rejected for allegedly being obvious in view of the combined subject matter disclosed in DE 3617827 (hereinafter "DE 827") and published U.S. application 2001/0055421 to Baatz et al (hereinafter "Baatz"). This rejection is improper for several reasons.

THE COMBINED PRIOR ART FAILS TO DISCLOSE THE CLAIMED INVENTION

Claim 2 recites a method of measuring the noise contained in a picture. The method includes:

"receiving a picture signal and processing said picture signal to detect at least one homogeneous picture region (BR) of the picture;
for the at least one detected homogeneous picture region (BR), measuring a high-frequency signal component (HP) contained in said picture signal; and
determining the noise contained in the picture from the high-frequency signal component (HP) and providing a noise signal indicative thereof." (cl. 2).

This method determines a homogeneous picture region, determines a high-frequency signal component within at least one homogeneous picture region, and determines the noise contained within the picture from the high-frequency signal component. Assuming for the moment without admitting that DE 287 and Baatz are properly combinable, the resultant combination still fails to

render the claimed invention obvious.

The Official Action contends that the claimed feature of *“receiving a picture signal and processing said picture signal to detect at least one homogeneous picture region (BR) of the picture;”* is met by the alleged disclosure in DE 827 of *“a video signal is received in which a measurement sample is formed consisting of a certain number of pixels in a line or in several lines in an arbitrary planar pattern (abstract), Fig 1 measuring circuit 11 (see also Fig 7).”* (Official Action, pg. 2). However, a fair and proper reading of DE 827 fails to reveal any detection of at least one homogeneous picture region.

In addition, the Official Action states *“the claimed for the at least one detected...is met where the pattern is subjected to high-pass filtering (abstract), element 21/Fig 2.”* (Official Action, pg. 2). However, there is no element 21 in FIG. 2 of DE 287. There is an element 21 in FIG. 5 of DE 287, but it is a low-pass filter – not a high-pass filter as alleged in the Official Action. The Official Action further contends that the claimed feature of *“for the at least one detected homogeneous picture region (BR), measuring a high-frequency signal component (HP) contained in said picture signal;”* is met by the disclosure in DE 287 regarding high-pass filtering. (Official Action, pg. 2). However, this contention in the Official Action is not based upon a fair and proper reading of DE 287 and does not consider claim 2 as a whole. Specifically, claim 2 recites measuring the high-frequency signal component – in contrast, DE 287 merely discloses estimating noise. That is, as shown in FIGs. 1-3 of DE 287, the system disclosed in DE 287 estimates the noise within the picture signal (also see the English language translation of DE 287 enclosed herewith). As shown in FIG. 2 of DE 287, a difference unit 3 computes the difference between the noisy picture signal and the past value of the output signal provided by the buffer 5. As a result, the difference block 3 in FIG. 2 of DE 287 provides a difference signal which is an estimate of the noise contained within the noisy

input signal on the input line 1. Referring to the FIG. 3 of DE 287, the difference signal is input to a high-pass filter 6.11 and the resultant filtered signal is further processed to provide a estimated noise signal. Hence, DE 287 clearly discloses merely processing a noisy picture signal to generate a noise estimate signal, and the noise estimate signal is summed with the noisy picture signal to provide a picture signal with the estimated noise removed. That is, DE 287 merely discloses high-pass filtering of the estimated noise signal (see the high-pass filter 6.11 in FIG. 3 of DE 287) – this is not the same as “*measuring a high-frequency signal (HP) contained in said picture signal;*”. (cl. 2). Significantly, DE 287 teaches high-pass filtering of a noise signal, while claim 2 recites measuring a high-frequency signal contained in the picture signal, which is not the same as the noise signal filtered in DE 287. DE 287 uses the high pass filter 6.11 (see FIGs. 3 and 5 of DE 287) to recover random noise within the picture, NOT the **high-frequency** signal component as recited claim 2.

PRIMA FACIE OBVIOUSNESS HAS NOT BEEN ESTABLISHED

The Official Action recognizes that DE 287 fails to disclose a “*homogeneous picture region*”. (see Official Action, pg. 3) However, the claimed subject matter is not simply just a “*homogeneous picture region*”. The Official Action further alleges that DE 287 discloses the processing of blocks of picture data. (see Official Action, pg. 3). The Official Action then contends that DE 287 discloses “*...the segmenting the picture of elements in order to determine the amount of noise, it would have been obvious to one of ordinary skill in the art at the time of the invention to segment regions by homogeneity in order to properly segment the image as done by Baatz.*” (Official Action, pg. 3). However, it is respectfully submitted that a prima facie case of obviousness has not been presented. Specifically, the record does not state a skilled person at the time of the invention would have modified DE 287 based upon the alleged teachings of Baatz. The Official Action

merely states that “...it would have been obvious to one of ordinary skill in the art at the time of the invention to segment regions by homogeneity in order to properly segment the image as done in Baatz.” (Official Action, pg. 3), and of course such a conclusionary, unsupported contention is incapable of establishing a prima facie case of obviousness.

In addition, there is no statement of record that properly asserts why a person of ordinary skill in the art at the time of the invention would have been motivated to allegedly modify DE 287 in view of Baatz. “Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination.” In re Geiger, 2 U.S.P.Q.2d 1276, 1278 (Fed. Cir. 1987). “Although the Commissioner suggests that [the structure in the primary prior art reference] could readily be modified to form the [claimed] structure, ‘[t]he mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification.’” In re Laskowski, 10 U.S.P.Q.2d 1397, 1398 (Fed. Cir. 1989), citing In re Gordon, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). In addition, “[w]hen the incentive to combine the teachings of the references is not readily apparent, it is the duty of the examiner to explain why the combination of the reference teachings is proper.” Ex parte Stone, 2 U.S.P.Q.2d 1788, 1790 (Bd.App. & Int’f 1986) (emphasis added).

As noted above, it is fundamental that obviousness can not be established absent some teaching to combine the references, or a suggestion or incentive supporting the combination of references. See In re Geiger, at 1278 (Fed. Cir. 1987). In the instant case the Official Action is lacking the necessary factual, non-conclusionary explanation why the combination of the DE 287 and Baatz is proper. Hence, it is respectfully submitted that a prima facia case of obviousness has not been presented since there is no proper teaching, suggestion or incentive that would lead one of

ordinary skill in the art to modify DE 287 based upon the teachings of Baatz to create the claimed invention.

In addition, Baatz is not even directed to a system that processes an image to determine noise within the image. Baatz relates to a system for radar and medical image processing (e.g., see Baatz ¶¶[0173] and[0177]. Specifically, Baatz states “[a] particularly strong point resides in the segmentation of textured pictures or data records, for example radar or X-ray pictures,...” (emphasis added, Baatz ¶[0173]). In addition, Baatz states “[t]he method is excellently suited for the processing of satellite and aerial pictures, or all kinds of medical images, namely of all two-dimensional as well as three-dimensional picture generation methods,...” (emphasis added, Baatz ¶[0177]). Therefore, it is respectfully submitted that Baatz is not even in the field of the claimed invention.

Claim 3 recites a method for measuring the noise contained in a video picture. The method of claim 3 includes:

“receiving a video picture signal and processing said video picture signal to detect at least one homogeneous picture region of the picture;
for the at least one detected homogeneous picture region, measuring a high-frequency signal component contained in said video picture signal; and
determining the noise contained in the picture from the high-frequency signal component and providing a noise signal indicative thereof.”.

It is respectfully submitted that claim 3 is patentable for at least all the same reasons as claim 2.

Claim 7 recites a method for measuring noise contained in a video picture that includes a plurality of regions. The method of claim 7 includes:

“processing said video picture region-by-region, wherein each region includes a plurality of blocks and each of the blocks includes a plurality of adjacent pixels; processing each region to determine if the region is a homogeneous region; for at least one detected homogeneous region of the picture, on a block-by-block basis determining a high-frequency signal for each block associated with the homogeneous region of the picture and providing a high-frequency signal indicative thereof; and determining the noise contained in the picture from the high-frequency signals and providing a noise signal indicative thereof.” (emphasis added, cl. 7).

It is respectfully submitted that claim 7 is patentable for at least all the same reasons as claim 2.

Claim 12 recites an apparatus that measures noise contained in a video picture that includes a plurality of regions, wherein each region includes a plurality of blocks and each of the blocks includes a plurality of adjacent pixels. The apparatus of claim 12 includes:

“means for processing each region to determine if the region is a homogeneous region;
means for determining a high-frequency signal for each block associated with the detected homogeneous region of the picture and for providing a high-frequency signal indicative thereof; and
means for determining the noise contained in the picture from the high-frequency signals and for providing a noise signal indicative thereof.”

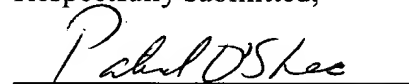
It is respectfully submitted that claim 12 is also patentable for at least all the same reasons as claim 2.

The indication that claims 4-5, 8, 10-11, 14 and 16-17 contain allowable subject matter and would be allowed if rewritten to no longer depend from a rejected base claim is noted and appreciated. However, since it is respectfully submitted that independent claims 2, 3, 7 and 12 are allowable for at least the reasons set forth above, claims 4-5, 8, 10-11, 14 and 16-17 have not been rewritten.

For all the foregoing reasons, reconsideration and allowance of claims 1-17 is respectfully requested.

If a telephone interview could assist in the prosecution of this application, please call the undersigned attorney.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Patrick J. O'Shea", is written over a horizontal line.

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